

REMARKS

In the last Office Action, claim 1 is rejected for being obvious in view of U.S. patents 5,864,176 and 5,930,893. These are the same two patents that were cited in the first Office Action.

The response to that first Office Action pointed out that patent `176 "does not disclose that any stress cracks will even be induced in the layer 102 when the heat-sink and electric heater are subjected to multiple temperature changes in a chip tester". Now, the current rejection says that patent `176 "does disclose cracks in layer 102" and cites col. 13, lines 13-20. See the current rejection at page 3, last full paragraph under "Response To Arguments".

However, the above cited text at col. 13, lines 13-20 merely says that the "electronic device or an interconnect to it" can crack "if too much pressure is applied". Thus, the crack which is described here is caused by excessive pressure. No crack is described here which is caused by temperature changes. Further, the crack which is described here is in the electronic device that is being tested or an electrical conductor that carries signals to/from that electronic device. No crack is described here in the layer 102 of attach material between the electric heater 13 and the heat-sink 14.

Also, in the response to the first Office Action, it was pointed out that in patent `893, "there are no cracks in the thermally conductive layer which is melted". Now, the current rejection says patent `893 "teaches problems associated with cracks" and cites col. 1, line 65 - col. 2, line 4 and col. 3, lines 407. See again the

current rejection at page 3, last full paragraph under "Response To Arguments".

However, the above cited text at col. 1, lines 65 - col. 2, line 4 merely describes "a compound comprising a paraffin wax with a softener" that is coated onto an "intermediate flexible insulator", and the crack which is described here merely occurs in the "coating" on the "intermediate flexible insulator". No crack is described here as occurring in an attach layer between an electric heater and a heat-sink. Further, the text cited at col. 3, lines 4-7 merely says "Another particular object of this invention is to . . . avoid the problems associated with material softeners". But the present invention has nothing to do with material softeners.

In view of the above analysis, it is respectfully submitted that the current rejection of claim 1 is based on an erroneous interpretation of the cited patents `176 and `893. Claim 1 recites a method where cracks are induced in a layer of attach material between an electric heater and a heat-sink. By comparison - 1) in patent `176, cracks are described as occurring in an electronic device being tested or an interconnect to it, and 2) in patent `893, cracks are described as occurring in an intermediate flexible insulator.

Also, claim 1 recites a method where cracks are induced by temperature changes. By comparison -1) in patent `176, cracks are induced by excessive pressure, and 2) in patent `893, cracks are induced due to the absence of a material softener.

Further, claim 1 as a whole recites a method wherein - 1) chips are tested in a chip tester which includes an electric heater and a heat-sink that are

connected with a layer of attach material, 2) temperature changes in the chip tester induce stress cracks in the layer of attach material as the chips are tested, 3) the cracks are then eliminated by at least partially melting the layer of attach material, and 4) the electric heater and connected heat-sink are then reused in the chip tester to test additional chips. Due to items 3) and 4) above, the operational time period of the electric heater and the attached heat-sink is extended. By comparison, no method of extending the operational time period of an electric heater and attached heat-sink is taught or suggested by the cited patents. Those patents do not even recognize that the temperature cracking problem in item 2) above exists.

Due to all of the differences that are pointed out above between claim 1 and the two cited patents, claim 1 and its narrower dependent claims 2-13 should be in a condition for allowance.

Accordingly, an early Notice of Allowance is requested.

Respectfully submitted,

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May 24, 2005

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